

Having described the invention, the following is claimed:

1. A Li-ion and/or Li-ion polymer battery, comprised of:
  - a plurality of battery cells, each battery cell comprised of:
    - at least one cathode section;
    - at least one anode section;
    - a separator layer disposed between said anode section and said cathode section;
  - a first, planar metal mesh layer within said anode section, said first metal mesh layer having a coplanar tab extending beyond said separator layer to define a negative lead; and
  - a second, planar metal mesh layer within said cathode section, said second metal mesh layer having a coplanar tab extending beyond said separator layer to form a positive lead; and
  - a plurality of reinforcing bands wrapped around the peripheral edges of said battery cells securing said battery cells together.
2. A Li-ion and/or Li-ion polymer battery as defined in claim 1, wherein said bands are comprised of an outer polymer layer and an inner adhesive layer.
3. A Li-ion and/or Li-ion polymer battery as defined in claim 2, wherein said polymer layer has a thickness between about 0.0005 inches and about 0.0015 inches.
4. A Li-ion and/or Li-ion polymer battery as defined in claim 3, wherein said outer polymer layer is comprised of polyimide.
5. A Li-ion and/or Li-ion polymer battery as defined in claim 3, wherein said outer polymer layer is comprised of polyester.
6. A Li-ion and/or Li-ion polymer battery as defined in claim 2, wherein said adhesive layer is comprised of silicone.
7. A Li-ion and/or Li-ion polymer battery as defined in claim 2, wherein said adhesive layer is acrylate.
8. A Li-ion and/or Li-ion polymer battery as defined in claims 6 or 7, wherein said adhesive layer has a thickness between about 0.0005 inches and about 0.0015 inches.

9. A Li-ion and/or Li-ion polymer battery as defined in claim 3, wherein each of said protective layers has a thickness between about 0.0015 and about 0.003 inches.

10. A Li-ion and/or Li-ion polymer battery as defined in claim 1, wherein said cell is generally rectangular in shape and has a lengthwise end with said tabs extending therefrom and said end with no tabs, said battery including at least one band on said end with no tabs, said band being wrapped around said end in a lengthwise direction.

11. A Li-ion and/or Li-ion polymer battery as defined in claim 10, wherein said band extends along the entire end of said battery.

12. A Li-ion and/or Li-ion polymer battery as defined in claim 1, wherein said cell is generally rectangular in shape and includes four (4) bands wrapped around the corners of said battery.

13. A Li-ion and/or Li-ion polymer battery as defined in claim 1, wherein said bands are wrapped widthwise around said battery.

14. A Li-ion and/or Li-ion polymer battery as defined in claim 1, wherein each of said battery cells includes a second cathode section and a second separator layer, said second separator layer disposed between said second cathode section and said anode section.

15. A Li-ion and/or Li-ion polymer battery as defined in claim 1, wherein said reinforcing bands extend along the entire lateral edges of said battery.

16. A Li-ion and/or Li-ion polymer battery as defined in claim 15, wherein said bands have tabs at least at one end thereof that wrap around a longitudinal edge of said battery.